TOWN OF EAST HAMPTON
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Planning Department
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Director

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May 5, 2016

To: Planning Board

From: JoAnne Pahwul, AICP
Assistant Planning Director

Re: Crabby Cowboy Restaurant & Sanitary Upgrade

Last Review Date: February 20, 2015

Items and Date Received:

- C1 Site/Sanitary Plan;
- C2 Sanitary Details both prepared by Drew Bennett and dated revised March 17, 2016;
- Copies of Food Services Permits

Background Information:
The 4.69 acre site is located on East Lake Drive in a Resort zoning district and fronts on Lake Montauk. The site is improved with three buildings containing motel units, a restaurant, a 22 slip marina, a single family residence, and a horse barn. The site is located in a Harbor Protection Overlay District, a NYS Significant Coastal Fish & Wildlife Habitat, and the Lake Montauk Scenic Area of Statewide Significance (SASS).

The initial application was made for approval to construct a 6' x 25' outdoor bar, to increase the seating at the restaurant from 75 seats to 189 seats by adding 91 patio seats and 23 bar seats, provide additional parking, and to relocate and upgrade the sanitary system serving the restaurant. The application was deemed incomplete and the Board requested that the parking be moved further from the shoreline to lessen the visibility; that a dimensioned parking layout be provided; that a seating plan be submitted; and additional information on the sanitary system be submitted. The applicant now proposes a 230 seat restaurant, with 161 interior seats, 69 patio seats, and 10 bar seats.

Issues for Discussion:

Number of Seats

A 2006 site plan approval for a 900 sq. ft. gravel patio covered with an awning limited the total number of indoor and outdoor seats to 75 based on the current food services permit. The applicant states that the restaurant is grandfathered for 230 seats by the Suffolk County Department of Health (SCDHS). Copies of food service permits submitted indicate that the restaurant had a food service permit for 230 seats in 1978 and 1980. A 1976 food service permit had only allowed for 80 seat and the food service permits since at least 1995 have approved 75 seats. The Planning Department notes that the Fire Marshal has determined that the restaurant currently has a rated capacity of 91.

The applicant proposes to increase the number of dining seats to 230, with 161 interior restaurant seats, 69 outdoor patio seats, and an additional 10 bar seats.

The applicant should submit floor plans for interior and exterior seating areas and submit an updated food services permit indicating that the Suffolk County Department of Health has grandfathered the restaurant for the 230 seats.

Sanitary System

The applicant is proposing to upgrade the sanitary system serving the restaurant and to move it to a location that is 200' from the edge of Lake Montauk and that meets the setback requirements for a sanitary system in a Harbor Protection Overlay District.

The sanitary detail depicts a 3' separation between groundwater and the bottom of the sanitary system, where HPOD require a 4' separation and the plan should be revised to reflect this.

The proposal will result in 64% more sanitary flow than the SCDHS standards would allow for a new use on the site. Based on lot area, the parcel has a maximum sanitary density load of 2,814 gpd. According to the Site Sanitary Plan prepared by Drew Bennett and dated February18, 2015, submitted on February 20, 2015, the existing uses, including a 75 seat restaurant, generate 3,120 gpd, which already exceeds the amount of flow that the SCDHS standards have determined that the property can accommodate in an environmentally sound manner.

According to the calculations on the site plan, increasing the number of seats from 75 to 230 will result in a sanitary density load of 4,425 gpd, representing 65% more sanitary flow than the current SCDHS standards permit.

Test Hole

In the last review, it was requested that a test hole be installed in the location where the sanitary system is proposed. The site plan indicates that the test hole was conducted 140' from the closest of the proposed sanitary leaching pools and in an area that the site plan indicates has the highest elevation on the site. It is recommended that test hole data be provided for the area where the sanitary system is to be installed.

Test hole data is provided on the site plan that indicates that groundwater was found at an elevation of 0.1' above sea level on May 16, 2014. An elevation of 0.1' is atypical for areas that are not wetlands. Groundwater levels fluctuate with tides and the sanitary system should be designed to accommodate the highest anticipated groundwater level. A USGS monitoring well on East Lake Drive indicates that groundwater is found at an elevation of 2'. Although this well is located approximately 1,000' from Lake Montauk and at a higher elevation, 2' is more typical with site elevations above 4' that do not contain wetlands.

Suffolk County Department of Health standards require that the time of the test hole be provided in addition to the date, and that if groundwater is encountered that the groundwater elevation measured during the test hole and the highest recorded groundwater elevation be shown. This documentation allows for tidal fluctuations to be taken into account and the 4' separation between the leaching rings and groundwater, required by the Harbor Protection Overlay District regulations to be measured from the highest reading.

The Planning Department recommends that a test hole be installed in the location where the sanitary system is proposed and that the highest groundwater elevation during high tide be measured and the time and date of the test hole recorded.

Alternative Sanitary System

The NYSDEC classifies Lake Montauk as SA, a designation indicating that the most appropriate use is as habitat, for recreation, and for shell fishing for human consumption. It is stated in the New York State Significant Coastal Fish and Wildlife Habitat narrative on Lake Montauk, that despite development, Lake Montauk remains a high quality estuary supporting significant populations of fish and wildlife. The narrative further states that any activity that would further degrade the water quality in Lake Montauk would adversely affect the biological productivity and viability of the commercial fishery in this area. All species of fish and wildlife may be affected by water pollution, such as waste disposal and stormwater runoff. High nitrogen levels can harm water bodies and lead to algal blooms that kill eelgrass and shellfish. In recent years, algal blooms and the loss of eelgrass that serve as nursery grounds for shellfish has been noted.

The Town conducted the *Lake Montauk Watershed Management Plan*, dated December 2014, to identify ways to protect and restore the water resources of Lake Montauk. The Town of East Hampton has also conducted a *Comprehensive Wastewater Management Study,* dated June 2015, that has made addressing the impacts of sanitary wasteflow on groundwater and surface waters a priority. Nitrogen discharges to the ground and surface waters of East Hampton have adversely affected the water quality of the Town's surface waters, in particular the saline waters. Wastewater nitrogen is the primary nitrogen source. Phosphorus discharges from septic systems, stormwater and legacy practices have also impaired East Hampton's surface waters. Bacterial contamination from malfunctioning septic systems and stormwater have also impaired East Hampton's surface waters and led to shellfish closures and bathing ban at south Lake Montauk. The

impacts of Nitrogen Loading impact on eelgrass in Lake Montauk has also been identified as a concern.

Conventional septic systems, as the one proposed, are designed to primarily address bacterial removal and decay of organic wastes, and have changed little over the past 20 years. Conventional septic systems do little to remove nitrogen, which can be a concern for both drinking supplies and a threat to coastal waters. It has been determined that 50-60% of the nitrogen (mostly as nitrate) is likely to escape the leaching field and percolate into the groundwater. The proposed sanitary system will be 4' above groundwater and 200' from Lake Montauk and since the groundwater flows into Lake Montauk, there is a significant potential for nitrogen and other contaminants reaching the surface waters in a relatively short period of time.

The soils on the site have been identified by the Soil Conservation Service as Filled land, dredged, representing an area that has been filled with material from dredging operations, mostly likely over a tidal marsh. According to the Soil Conservation Service, cesspools do not function properly in this soil type where the groundwater is at a shallow depth. According to the test hole information provided, the first 1.5" below grade is sandy loam, and the remaining subsoils to groundwater are sand. Sand offers little attenuation in terms of removal of contaminants.

Excess nitrogen can cause overstimulation of growth of aquatic plants and algae. Excessive growth of these organisms, in turn uses up dissolved oxygen as they decompose, and blocks light to deeper waters, causing eutrophication which produces unsightly scums of algae on the water surface affecting our use of the water for fishing, swimming, and boating, and can result in fish kills and a decrease in animal and plant diversity.

Both the *Lake Montauk Watershed Management Plan* and the *Town's Comprehensive Wastewater Management Plan* recommend the use of alternative sanitary systems in high density areas within the watershed in order to protect the surface waters of Lake Montauk. The Suffolk County Department of Health Services (SCDHS) has approved a number of sanitary system technologies capable of attaining a 10 mg/L discharge, equivalent to drinking water standards, for total nitrogen for small systems that handle between 1,000 gpd and 15,000 gpd.

Permeable Reactive Barrier

During the last review, the Planning Department recommended that the applicant install a permeable reactive barrier as a measure to mitigate potential environmental impacts from the sanitary system on Lake Montauk. The applicant has responded that this is not a SCDHS requirement and that the applicant's research has indicated that this is not a proven technology and that one is not being proposed for the project.

According to the attached EPA document, a permeable reactive barrier (PRB) is a wall created below ground to clean up contaminated groundwater by either trapping harmful

contaminants or making them less harmful. The EPA finds PRB's to be effective and relatively inexpensive tools and has recommended there use in Chesapeake Bay.

As mitigation for the proposed increase in sanitary flow to that 65% over what SCDHS standards allow, the Planning Department continues to recommend the use of a permeable reactive barrier to reduce the amount of nitrogen and other contaminants that have the potential to impact the surface water quality of Lake Montauk.

Parking

Parking calculations for all uses on the site, including the 19 motel units, single family dwelling, and the proposed 230 seat restaurant indicate that 145 spaces are required under zoning and 145 spaces are proposed.

A detail found on the Sanitary Details drawing (Sheet C2) shows that the proposed parking lot surface is to consist of 2" of crushed quarts over existing sand. However, the site plan does not depict the limits of the improved parking areas, including 24' wide aisles and should be revised to do so.

§255-11-46 of the Town Code allows the Planning Board to approve up to 50% of the required parking for a use to be located on prepared, well-drained, dust free grassed areas in the case of a use which traditionally exhibits extended periods of low parking demand. The Board and applicant should discuss whether the project should consider this.

Traffic

The Planning Board should consider whether the increase in traffic from a 75 seat restaurant to a 230 seat restaurant warrants a traffic study.

Vegetative Buffer

Several new parking areas are being created in order to accommodate the increase in restaurant seating proposed. The parking layout has been revised to pull the proposed parking spaces further from the edge of Lake Montauk than shown in the previous review. The closest spaces are now 100' from the edge of Lake Montauk, negating the need for a wetland setback variance, but still requiring a Natural Resources Special Permit and a vegetative buffer is recommended as a mitigative measure.

The site is entirely cleared and pre-existing, nonconforming with regard to clearing. Harbor Protection Overlay District regulations limit clearing on the parcel to a maximum of 50%, whereas the existing clearing is 100%. A 2006 ZBA approval required a 25' wide vegetative buffer landward of the bulkhead. In 2015, the ZBA modified this requirement based on the applicant's stated need for access by commercial fisherman and recreational boaters, to allow for plantings elsewhere on the property. A total of 13,240 sq. ft. of beach grass is to be planted, mostly along the southerly side of the property, representing 6 % of the parcel.

The site slopes gradually towards Lake Montauk which will result in runoff directed towards the Lake. All stormwater runoff should be discharged on site and not allowed to

run into Lake Montauk. The *Lake Montauk Watershed Study* recommends the establishment of vegetative buffers on properties that abut the Lake to contain runoff. It would appear that there is sufficient area within the 100' between the parking area and the bulkhead to allow for waterfront access and also create a vegetated buffer adjacent to the parking.

Additionally, as noted in the initial evaluation, creating an area of parked cars in close proximity to Lake Montauk, a designated SASS area (Scenic Area of Statewide Significance), has the potential to be detrimental to views to and of the shoreline given the relatively flat and cleared nature of the site. A vegetative buffer would reduce the visual impacts.

A buffer strip of plantings of native vegetation at the edge of the proposed parking would reduce runoff, bring the parcel more in conformance with the Harbor Protection Overlay Clearing regulations, and lessen the visual impact in this Scenic Area of Significance.

Coverage

The site plan indicates that total coverage is 28.2% and will be increased to 28.7% as a result of this project. All parking areas, including gravel and grass areas, should be included in coverage and would appear to represent a much greater coverage. The maximum total coverage permitted is 75% and the project appears to comply with this. However, large areas of additional parking are being proposed that do not appear to be included in total coverage and this calculation should be revised to include all parking and aisles.

The limits of the parking areas including parking spaces and aisles should be more clearly defined on the plan and revised to meet zoning with regard to minimum aisle width before determining coverage.

Revegetation

In the initial review, it was noted that the conditions of approval of a 2006 site plan approval, including updating the lighting and providing a copy of the plan for revegetation of the 25' buffer area landward of the bulkhead, had not been met. The actual revegetation of this buffer area was required by the ZBA and also had not been completed.

The applicant has modified the 2006 ZBA approval and received approval to plant 9,900 sq. ft. of beach grass along the southerly border and a 3,340 sq. ft. area along East Lake Drive instead of planting along the bulkhead. The revised site plan depicts this. The applicant will also need to submit this plan to the 2006 site plan file in order to meet the conditions of that approval and should comply with the approved lighting plan and request a Certificate of Occupancy. Also, the last extension of time was issued for the prior approval in May 2007 and another extension request will be necessary.

Conclusion
The proposal to upgrade and relocate the existing sanitary system is a positive aspect of the current application. However, standard sanitary systems are not designed to significantly remove nitrogen. Increasing the number of restaurant seats from 75 to 230, or by more than 300%, will still have the potential to negatively impact and degrade the water quality of Lake Montauk in this area even given this upgrade. Even if the SCDHS determines that the restaurant has right to 230 seats based on a Food Services Permit for that seating capacity in 1980, it is recommended that additional mitigative measures be provided including the use of a permeable reactive barrier and an alternative sanitary system that is capable of reducing the amount of nitrogen and other contaminants from entering the groundwater and hence Lake Montauk. Another form of mitigation for the project would be a reduction in the number of seats.

Planning Board Consensus:
The Planning Board should discuss whether a test hole in the location where the sanitary system is proposed that provides information based on a high tide should be provided.

Additional comments: _____

The Planning Board should decide whether to recommend that a vegetative buffer be provided between the parking areas and the bulkhead.

Additional comments: _____

The Board should discuss whether additional mitigation including an alternative sanitary system, a permeable reactive barrier or a reduction in the number of seats proposed should be included in the project.

Additional comments: _____

The Board should determine whether a revised site plan that addresses the above comments regarding parking and coverage should be provided.

Additional comments: _____

The Board should advise the applicant whether the sanitary profile should be revised to provide the 4' separation between groundwater and the sanitary system required by the Harbor Protection Overlay District regulations.

Additional comments: _____

The Planning Board should discuss whether a traffic study should be submitted.

Additional comments: _____

Additional Board Comments:

A Citizen's Guide to Permeable Reactive Barriers

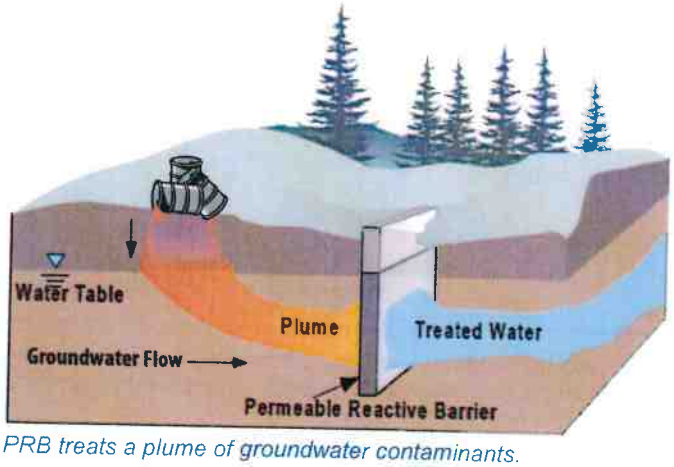
What Are Permeable Reactive Barriers?

A permeable reactive barrier, or "PRB," is a wall created below ground to clean up contaminated groundwater. The wall is "permeable," which means that groundwater can flow through it. Water must flow through the PRB to be treated. The "reactive" materials that make up the wall either trap harmful contaminants or make them less harmful. The treated groundwater flows out the other side of the wall.

How Do They Work?

A PRB is usually built by digging a long, narrow trench in the path of contaminated groundwater flow. The trench is filled with a reactive material, such as iron, limestone, carbon, or mulch, to clean up contamination. Due to limitations of excavation equipment, walls typically can be no deeper than 50 feet. However, a deeper but usually shorter PRB can be built by drilling a row of large-diameter holes or by using fracturing (See *A Citizen's Guide to Fracturing* [EPA 542-12-008]) and other new techniques.

The reactive material selected for the PRB will depend on the types of contaminants present in the groundwater. The material may be mixed with sand to make the wall more permeable so that it is easier for groundwater to flow through it, rather than around it. Side walls filled with an impermeable material such as clay may be constructed at an angle to the PRB to help funnel the flow of contaminated groundwater toward the reactive materials. The filled trench is covered with soil, and is not usually visible at the ground surface.



PRB treats a plume of groundwater contaminants.

Depending on the reactive material, contaminants are removed through different processes:

- Contaminants *sorb* (stick) to the surface of the reactive material. For example, carbon particles have a surface onto which contaminants, such as petroleum products, sorb as groundwater passes through.
- Metals dissolved in groundwater *precipitate*, which means they settle out of the groundwater by forming solid particles that get trapped in the wall. For example, limestone and shell fragments can cause dissolved lead and copper to precipitate in a PRB.
- Contaminants *react* with the reactive material to form less harmful ones. For example, reactions between iron particles and certain industrial cleaning solvents can convert the solvents to less toxic or even harmless chemicals.
- Contaminants are *biodegraded* by microbes in the PRB. Microbes are very small organisms that live in soil and groundwater and eat certain contaminants. When microbes digest the contaminants, they change them into water and gases, such as carbon dioxide. (*A Citizen's Guide to Bioremediation* [EPA 542-F-12-003] describes how microbes work.) Organic mulch frequently is used as reactive media in this type of PRB. Mulch barriers consist of plant-based materials, such as compost or wood chips, and naturally contain many different microbes. Groundwater flow through the PRB also releases organic carbon from the mulch wall, creating another reactive zone for contaminants just beyond the wall.

Over time, reactive materials will fill up with contaminants or treatment products and become less effective at cleaning groundwater. When this occurs the contaminated reactive material may be excavated for disposal and replaced with fresh material.

How Long Will It Take?

PRBs may take many years to clean up contaminated groundwater. The cleanup time will depend on factors that vary from site to site. For example, cleanup may take longer where:

- The source of dissolved contaminants (for instance, a leaking drum of solvent) has not been removed.
- The contaminants remain in place because they are not easily dissolved by groundwater.
- Groundwater flow is slow.

Are PRBs Safe?

The reactive materials placed in PRBs are not harmful to groundwater or people. Contaminated groundwater is cleaned up underground so treatment does not expose workers or others onsite to contamination. Because some contaminated soil may be encountered when digging the trench, workers wear protective clothing. Workers also cover loose contaminated soil to keep dust and vapors out of the air before disposing of it. Groundwater is tested regularly to make sure the PRB is working.

How Might It Affect Me?

During construction of the PRB, nearby residents may see increased truck traffic when materials are hauled to the site or hear earth-moving equipment. However, when complete, PRBs require no noisy equipment. Cleanup workers will occasionally visit the site to collect groundwater and soil samples to ensure that the PRB is working. When the reactive materials need to be replaced, the old materials will have to be excavated and hauled to a landfill.

Why Use PRBs?

PRBs are a relatively inexpensive way to clean up groundwater. No energy is needed because PRBs rely on the natural flow of groundwater. The use of some materials, such as limestone, shell fragments, and mulch, can be very inexpensive, if locally available. No equipment needs to be above ground, so the property may continue its normal use, once the PRB is installed.

Construction of a PRB in Sunnyvale, CA

PRBs have been selected or are being used at more than 30 Superfund sites across the country.

Example

A PRB with iron as the reactive material was installed in 1995 to clean up groundwater at a former semiconductor manufacturing site in Sunnyvale, California. Concentrations of industrial solvents in the groundwater plume were extremely high.

Due to changing groundwater flow directions, low-permeability walls were installed below ground and perpendicular to the PRB to direct the flow of contaminated groundwater toward the PRB. The PRB itself is about 8-feet wide, 40-feet long and 20-feet deep. The objective of the PRB is to reduce solvent concentrations to below the cleanup standards set by the State of California. As of 2009, solvent concentrations in groundwater samples collected within the treatment zone remain below the cleanup standards. Use of a PRB has allowed the metals machining facility currently at the site to continue operating during cleanup.

For More Information

For more information on this and other technologies in the Citizen's Guide Series, contact:

U.S. EPA
Technology Innovation & Field Services Division
Technology Assessment Branch
(703) 603-9910

Or visit:
http://www.cluin.org/prb

United States
Environmental Protection
Agency

Office of Solid Waste and
Emergency Response
(5102G)

EPA 542-F-12-017
September 2012
www.epa.gov/superfund/sites
www.cluin.org

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DEPARTMENT OF ENGINEERING

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May 12, 2016

TO: Planning Board

FROM: Thomas D. Talmage, P.E.

RE.: Crabby Cowboy Restaurant Improvements & Sanitary Upgrade,
SCTM #0300-006-02-16, 25

As requested, I have reviewed the above referenced application received by the Planning Board on March 21, 2016 including the Drawing C-1 dated June 4, 2014 last revised March 17, 2016 prepared by Drew Bennett, P.E. and I offer the following comments.

1. The applicant has labeled five handicapped parking spaces. 2 HC Spaces for the Building A. 1 HC Spaces for the Building C. and 2 HC Spaces for the Building D. There are also 22 boat slips. All parking spaces and boat slips have been numbered, handicapped spaces are to be identified.
   Additional information such as grades that will show the accessible route from the parking spaces to the building or the boat slip need to be drawn or notated.

2. I recommend the Planning Board require the number of motel units to be numbered on each building.

3 Dimensions of the parking spots have been shown. Dimensions of parking aisles are not shown. All the access aisles need to be labeled and shown to be 24 feet wide.

4. In lieu of proposed grades, the applicate can show flow lines. The drainage calculations are found to be satisfactory.

5. The applicant is proposing a crushed quartz. This complies with HPOD.

6. The Board should discuss with the applicant how to delineate the parking spaces.

7. The Board should discuss traffic circulation with the applicant.

8. An erosion and sediment control plan should be submitted.

9. The applicant should note §102-27 in the Town Code, "Readily Achievable" Section. I recommend this drawing be forwarded to the Disability Committee for their comments as it pertains to handicapped accessibility to four (4) motel buildings, restaurant and 22 boat slips.

Should there be any questions, please do not hesitate to contact me.

TDT:tdt
cc: J. Pahwul,